

Application Serial No: 09/966,973
Attorney Docket No.: 51949 (ACT-162)

Turning now to the final Official Action, claims 1, 2, 6, and 9-12 stand rejected under 35 U.S.C. §102(e) as being anticipated by Yoshida et al (U.S. Patent No. 6,632,027). This rejection is respectfully traversed for at least the following reasons.

The present invention relates to an optical device package. Claim 1, for example, sets forth an optical device package which includes: a) a substrate having an upper surface and an elongated linear groove for receiving an optical fiber; b) an optical fiber positioned within the groove in the substrate and having a top surface; and c) a frame including a flat bottom surface sealed to the upper surface of the substrate, the top surface of the optical fiber being at or below the level of the bottom surface of the frame.

It is well established, that in order to establish anticipation under §102, each element of the claim in issue must be found, either expressly described or under principles of inherency, in a single prior art reference. Kalman v. Kimberly-Clark Corp., 218 USPQ 789 (Fed. Cir. 1983). That is not the case here.

Yoshida et al relates to an optical module with a plastic package. Yoshida et al does not disclose or suggest each feature of the present invention. For example, Yoshida et al does not disclose or fairly suggest a frame including a flat bottom surface sealed to the upper surface of the substrate, the top surface of the optical fiber being at or below the level of the bottom surface of the frame, as set forth in claim 1. The Office takes the position that "this feature is clearly shown in figures 1, 4 and column 5, line 57-column 6, line 6 of Yoshida" (final Official Action at page 2). Applicants respectfully disagree with the Office's position.

The Official Action improperly equates metal part 160 of Yoshida et al to the presently claimed "frame". This metal part 160 has an opening 162 through which an optical fiber 130 is disposed. On either side of the opening 162 are two metal tabs that extend downward from the upper surface of the metal part 160 (see Figure 1). The bottom surface of these metal tabs contact lead frame 150. Given that claim 1 recites "a frame including a flat bottom surface sealed to the upper surface of the substrate," the bottom surface of the Yoshida et al metal tabs only could be equated with the claimed "flat bottom surface" of the frame. It is clearly illustrated in Figures 1, 4, and 5 that the bottom of the metal tabs is disposed below the fiber 130. That is, the ends of the tabs are fixed to the lead frame 150 at the location of the epoxy 195, which is below the upper

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surface of the optical fiber 130. Thus, Yoshida et al discloses that the top surface of the optical fiber 130 is disposed above, not at or below, the bottom surface of the metal part 160 of Yoshida et al.

In addition to Figures 1 and 4 of Yoshida et al, the Office cites column 5, line 57 to column 6, line 6 of Yoshida et al in support of its position. That portion of Yoshida et al reads as follows:

In the sixth embodiment, as shown in FIG. 4 , the boxy or semi-boxy conductive metal parts 460 formed by press manufacturing are electrically fixed to a lead frame 450 so that the parts 460 do not contact with bonding wires 447 and the substrate 440 is covered with the parts 460 . In this embodiment, the lead frame 450 has projecting parts 461 and holes 451 so that tips of the part 460 are inserted into the holes 451 and the tip is bent for fixing the parts 460 to the lead frame 450 . This structure has advantage of strengthening mechanical joining between the lead frame 450 and the parts 460 .

The package of the present embodiment has the shape shown by dashed line of FIG. 4 and is manufactured by using lump fabrication method, for example, transfer mold method. The metal parts 460 has openings 462 in front and behind portion to avoid interference with the optical fiber 430 and smooth the way for the flow of the mold resin as package material.

To applicants' best understanding of this cited text, there is no disclosure or suggestion of a frame including a flat bottom surface sealed to the upper surface of the substrate, the top surface of the optical fiber being at or below the level of the bottom surface of the frame, as set forth in claim 1.

For at least the foregoing reasons, Yoshida et al does not disclose or suggest each feature of claim 1. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 13 stands rejected under 35 U.S.C. §103(a) as being obvious over Yoshida et al in view of Blonder et al (U.S. Patent 4,897,711). This rejection is respectfully traversed for at least the following reasons.

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The Office relies on Blonder et al for that document's alleged disclosure of a reflecting surface for reflecting optical signals between an optical fiber and active area. Blonder et al, however, does not cure the deficiencies in Yoshida et al set forth above with respect to claim 1 and the §102(e) rejection. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 3-5, 7, 8, and 14 stand rejected under 35 U.S.C. §103(a) as being obvious over Yoshida et al in view of Shuto et al. (U.S. Patent No. 6,558,426). This rejection is respectfully traversed for at least the following reasons.

Persons skilled in the art would not have combined Yoshida et al and Shuto et al in the manner suggested in the Official Action. In this regard, the Office correctly recognizes that Yoshida et al does not disclose a "frame including a single piece member having [a] band-like structure defining an opening as recited in claims 3 and 14" (final Official Action at page 5). To cure this deficiency, the Office improperly relies on Shuto et al.

Yoshida et al discloses as an object of the invention, the provision of an optical module with a plastic package and the improvement of the problem of electromagnetic interference (EMI) (col. 1, lines 39-54). The Office equates drawing reference numeral 160 of Yoshida et al to the presently claimed frame (final Official Action at page 3). Yoshida et al's description of drawing reference numeral 160 is as follows:

The conductive metal parts 160 are fixed to the lead frame 150 by conductive epoxy resin so that the substrate 140 is covered with the parts 160 for electromagnetic shielding. (Col. 3, lines 34-37).

Thus, the purpose of the conductive metal part 160 of Yoshida et al is for EMI shielding.

The Office proposes to modify the Yoshida et al device with the frame 92, illustrated in Figure 1 of Shuto et al. There is nothing in Shuto et al to suggest that the frame 92 would be effective as a shield for EMI. Quite to the contrary, it would be expected that the Shuto et al frame 92 would be ineffective as an EMI shield in the Yoshida et al device due at least to its open geometry in comparison to that of Yoshida et al's conductive metal part 160. Accordingly, persons skilled in the art would never have

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substituted the frame 92 of Shuto et al for the conductive metal part 160 in the Yoshida et al device.

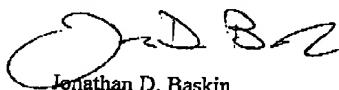
Moreover, even assuming (incorrectly) that one skilled in the art would have combined Yoshida et al with Shuto et al in the manner suggested in the Official Action, the present invention would not have resulted. In this regard, use of the Shuto et al frame in the Yoshida et al device would not result in an optical device package as set forth in independent claims 1 or 14. More specifically, the structure resulting from the combination of Yoshida et al and Shuto et al would not include an optical fiber having a top surface at or below the level of the bottom surface of the frame, as set forth in claim 1. Nor would the resulting structure include an optical fiber having a top surface at or below the level of the upper surface of the substrate, as set forth in claim 14.

For at least these reasons, the §103(a) rejection based on Yoshida et al and Shuto et al is improper and should be withdrawn.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at her earliest convenience.

Respectfully submitted,



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